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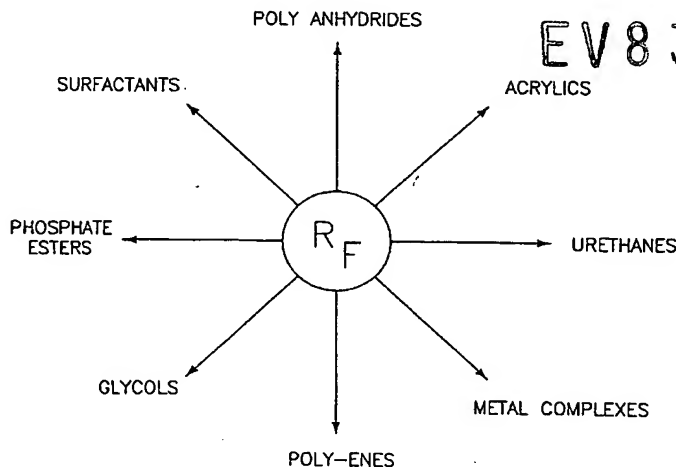
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[Continued on next page]

(54) Title: PRODUCTION PROCESSES AND SYSTEMS, COMPOSITIONS, SURFACTANTS, MONOMER UNITS, METAL COMPLEXES, PHOSPHATE ESTERS, GLYCOLS, AQUEOUS FILM FORMING FOAMS, AND FOAM STABILIZERS



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(57) Abstract: Production processes and systems are provided that include reacting halogenated compounds, dehalogenating compounds, reacting alcohols, reacting olefins and a saturated compounds, reacting reactants having at least two -CF<sub>3</sub> groups with reactants having cyclic groups. R<sub>F</sub>-compositions such as R<sub>F</sub>-intermediates, R<sub>F</sub>-surfactants, R<sub>F</sub>-monomers, R<sub>F</sub>-monomer units, R<sub>F</sub>-metal complexes, R<sub>F</sub>-phosphate esters, R<sub>F</sub>-glycols, R<sub>F</sub>-urethanes, and/or R<sub>F</sub>-foam stabilizers. The R<sub>F</sub> portion can include at least two -CF<sub>3</sub> groups, at least three -CF<sub>3</sub> groups, and/or at least two -CF<sub>3</sub> groups and at least two -CH<sub>2</sub>- groups. Detergents, emulsifiers, paints, adhesives, inks, wetting agents, foamers, and defoamers including the R<sub>F</sub>-surfactant composition are provided. Acrylics, resins, and polymers are provided that include a R<sub>F</sub>-monomer unit. Compositions are provided that include a substrate having a R<sub>F</sub>-composition thereover. Aqueous Film Forming Foam ("AFFF") formulations are provided that can include R<sub>F</sub>-surfactants and/or R<sub>F</sub>-foam stabilizers are provided.

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**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW,

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- of inventorship (Rule 4.17(iv)) for US only

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